

REMARKS

Claims 1-3, 5, 6, 8, 9, and 15-28 are pending. Of these, claims 2 and 3 are withdrawn but should be rejoined upon allowance of claim 1 from which they depend. By this Amendment, the specification and claims 8, 9, 15, 19 and 20 are amended. Figures 6A, 6B, 12 and 13 are replaced. No new matter has been added.

The specification is amended to correct a minor grammatical error in the disclosure. Claims 8, 9, 19 and 20 are amended to provide proper antecedent basis for claimed terms. Claim 15 is amended to provide proper antecedent basis for claim 27.

Also attached are replacement drawing sheets submitting the corrected drawings approved on November 29, 2002 for Figs. 6A, 6B, 12 and 13.

Applicants acknowledge with appreciation the indication on page 8, item 10 of the Office Action that claims 9, 20 and 21 recite allowable subject matter.

Applicants thank Examiner Dinh for the courtesies extended to Applicants' representative during the May 20, 2004 interview. The points discussed are incorporated into the remarks below and constitute the Applicants' record of the interview.

I. FORMAL MATTERS

A. Drawings

On page 2, item 1 of the Office Action, the drawings are objected to. Applicants respectfully submit that the drawing figures fully show the claimed features of claims 1, 15 and 22. Specifically, Figs. 1 and 2, for example, show a terminal end recited in claim 1. As supported on page 20, lines 10-22 of the Applicants' specification, the terminal portions have terminal ends shown in Figs. 1 and 2, at least, whereby the terminal ends are located at ends of the terminal portion having a track configuration.

Further, Figs. 14A-14D show a power supply region and a ground region that are adjacent and are formed in the same plane, as recited in claim 15. Applicants' specification

discloses on page 29, lines 18-19 (explaining Figs. 14B-14D), that the power supply region and the ground region are adjacent on the same insulating board (the same layer). That is, being on the same layer means being on the same plane. Consequently, the feature is shown in Figs. 14A-14D and described on page 29, lines 18-19.

Further, Fig. 14C discloses that the power supply region is entirely surrounded by the ground region, as recited in claim 22. In fact, the power supply region is shown located in the middle of the ground region.

In view of the above, withdrawal of the drawing objection is respectfully requested.

B. Specification

On page 2, item 2 of the Office Action, the specification is objected to for allegedly containing a grammatical error. The specification is amended to obviate the objection.

C. Claims

On page 2, item 3 of the Office Action, claims 8, 9, 19 and 20 are objected to as lacking proper antecedent basis for certain claimed features. Claims 8, 9, 19 and 20 are amended to obviate the objection.

II. REPLY TO REJECTIONS

A. §112, First Paragraph Rejection

On page 3, item 5 of the Office Action, claims 15-20, 22-24, 27 and 28 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, it is alleged the specification is silent regarding a power supply region and a ground region which are formed in the same plane, as recited in claim 15, and a power supply region which is entirely surrounded by the ground region, as recited in claim 22.

As discussed above for the drawing objections, the passages cited above implicitly or inherently disclose, and the drawing figures explicitly show, a power supply region and a

ground region that are formed in the same plane, as recited in claim 15. It is true that the specification does not specifically use the word "plane". Nevertheless, it is noted that the law does not require that exactly the same word be used in the claims as used in the specification. Instead, it allows other words as long as the word is fully supported (Manual of Patent Examining Procedure §2163, pages 2100-162). Therefore, Applicants submit "plane" is fully supported by the specification, for example, on page 30, lines 8-11 disclosing that the power supply region and the ground region may be formed adjacent to one another on the same insulating board. The specification further describes forming the power supply region and the ground region either on different layers (page 30, line 12), or the same layer (page 30, line 16). Therefore, as it is conventional in the art to form such regions on the surface of the board layer, i.e., plane, Applicants respectfully submit the specification fully supports the claimed term.

Further, it is noted that page 29, lines 18-23 of Applicants' disclosure, disclose that the power supply region and the ground region may be on the same insulating board (same layer) and at least one region of these has a shape that may be considered a track, and this inter-region can also be treated the same as when the power supply region and the ground region are formed in different layers with the dielectric interposed therebetween. In other words, the passage describes that the same effect, as when the separate regions are formed in different layers, may be obtained even when the separate regions are formed in the same layer. Thus, the passage describes an inventive insight of having each of the power supply and ground regions that are formed on the same layer, which renders this application patentable over references that only use separate (or different) layers for each of the power supply and ground regions. As a result, the disclosure is not contradictory, as asserted in the Office Action, but discusses different embodiments, i.e., a same layer embodiment as shown in Figures 14B-14D, and a different layer embodiment as exemplarily shown in Figure 1.

Thus, there is sufficient written description for all the claim terms.

B. §112, Second Paragraph Rejection

On page 4, item 7 of the Office Action, claims 1, 5, 6, 8, 9, 21, 23 and 25-27 are rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite.

As discussed above for the drawing objection, terminal ends mean the end of terminal portions, as disclosed in Figs. 1, 2, for example, and described on page 20, lines 10-22 of the Applicants' specification. Specifically, the terminal end is located at the end of the track configuration described on page 20, lines 18-20. That is, the terminal end of the at least one region recited in claim 1 is a location where the terminal element is connected to at least one of the regions. As shown in Figures 1 and 2, such location is very near the reference numeral 14.

Regarding claim 23, and the feature that the power supply region and the ground region face each other without overlapping, the claim is directed to Fig. 14D where the power supply region and the ground region face each other. There is no overlapping (i.e., to lie or extend over and cover part of) of the different regions. The specification at page 29, lines 14-18 states that the power supply layer and the ground layer may also be "regarded as substantially overlapping" when the power supply layer and the ground layer "do not overlap but are contiguous when the circuit board device is seen from above." In other words, the Applicants regard what is shown in Figures 14B-14D, which shows a power supply layer and the ground layer not overlapping but are contiguous, as "regarded as substantially overlapping," which is an acceptable redefining of terms consistent with the law and the rules that allow inventors to be their own lexicographers as long as the definition is not abhorrent to a word's usual meaning.

As discussed above, the power and ground regions need not be on different layers and may be on the same layer or "plane". The power and ground regions do not overlap but are contiguous, and is regarded as substantially overlapping. Thus, there is neither a contradiction nor a paradox. Withdrawal of the rejection is respectfully requested.

Regarding claim 27, claim 15 is amended to recite "a terminal end" to provide proper antecedent basis for claim 27 and to use consistent claim terminology.

C. §102 Rejection

On page 5, item 7 of the Office Action, claims 15-18, 22, 24, 27 and 28 are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,898,576 to Lockwood et al. (hereinafter "Lockwood"). The rejection is respectfully traversed.

Applicants respectfully submit that the Office Action has failed to properly consider a feature recited in claim 15. Specifically, there is no discussion that Lockwood fails to disclose that a power supply region and a ground region are adjacent and are formed in the same plane, as recited in claim 15. It was agreed during the interview that Lockwood fails to disclose the feature.

The Manual of Patent Examining Procedure (MPEP) §2143.03 mandates that all claim limitations must be taught or suggested, and that indefinite limitations or limitations which do not find support in the original specification must all be considered. Therefore, even if indefinite or not supported in the specification, all claim features must be considered and given weight. Applicants respectfully submit that, as discussed above, all of the claim features are supported and definite. Yet, claim features were not considered.

Lockwood specifically discloses a power-ground plane construction 30 including a separate power plane 32 and a ground plane 34 that are rectangular in shape and has each of four sides as well as edges. The power plane 32 and the ground plane 34 are connected by a

set of termination elements 48, and a dielectric layer 36 is disposed between the power plane 32 and ground plane 34 (col. 5, line 49 - col. 6, line 37, Fig. 8).

Lockwood, therefore, discloses a separate power plane 32 and ground plane 34 which must be disposed separately on different planes with a dielectric 36 disposed between them and must have termination elements 48 that span between the different planes 32, 34 across the dielectric 36. Thus, Lockwood fails to disclose or suggest a power supply region and a ground region that are formed in the same plane. Consequently, claim 15 is patentable over the applied reference. Claims 16-18, 22, 24, 27 and 28, which depend from claim 15, are likewise patentable over the applied reference for at least the reasons discussed above and for the additional features they recite. Withdrawal of the rejection is respectfully requested.

D. §103 Rejection

On page 6, item 9 of the Office Action, claims 1, 4-8, 19, 25 and 26 are rejected under 35 U.S.C. §103(a) over Lockwood in view of U.S. Patent No. 5,926,377 to Nakao et al. (hereinafter "Nakao"). Claims 4 and 7 were previously cancelled and no longer pending. Thus, the rejection of these claims are moot. The rejection of the remaining claims is respectfully traversed.

Applicants respectfully concur that Lockwood fails to disclose a circuit board device having a power supply region divided into two or more power supply regions by a slit, as recited in claim 1. However, Applicants disagree that such is obvious based on the teaching of Nakao. In fact, Nakao fails to disclose having a power supply region divided into two or more power supply regions because Nakao also fails to disclose having two or more power supply regions.

As described on page 6, lines 8-9 of Applicants' disclosure, the divided power supply layer is able to supply different power supply voltages. Further, in order to supply different

power supply voltages, the potentials in each of the divided power supply regions must be different. Such is possible only when a power supply region is divided.

In Nakao, it is disclosed that there is no division of the power source layer 2 but that only a cut 7 is formed thereon so that the region containing a noise source 5 is formed. However, the cut 7 or 9 still allows the region with the noise source 5 to be connected to the other region by an exit 8 where a capacitor 10 is formed to pass a high frequency current to the ground layer 3 (Figs. 1b, 1c, col. 4, lines 3-20). As disclosed in Nakao, the cut 7 or 9 is formed so that the resonance frequency of the printed board will increase because the distance between noise source 5 and the edge 6 of the power source layer is shortened by the cut 7 or 9 (col. 3, lines 64-67). There is no disclosure in Nakao of having a power supply region divided into two or more power supply regions, as recited in claim 1, as understood by one of ordinary skill in the art in view of the specification. Therefore, even if combined, the combination fails to suggest the features of claim 1. Therefore, claim 1 is patentable over the applied references. Claims 5, 6, 8, 9, 21, 23, 25 and 27, which depend from claim 1, are also patentable over the applied references for at least the reasons discussed above and for the additional features they recite. Withdrawal of the rejection is respectfully requested.

III. CONCLUSION

For the reasons stated above, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance are respectfully requested.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachments:
Replacement Sheets

Date: May 21, 2004

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